



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,951	11/19/2003	Dave Van Vliet	60538/2:1	9021
52169	7590	12/23/2005	EXAMINER	
INTEGRAL INTELLECTUAL PROPERTY INC. 78 COCKSFIELD AVENUE TORONTO, ON M3H-3S9 CANADA			PRINCE, FRED G	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/717,951	VAN VLIET ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Fred Prince	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 November 2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4,24-31,33-35 and 45-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4,24-31,33-35 and 45-47 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 24, 31, and 45-47 are again rejected under 35 U.S.C. 102(b) as being anticipated by Robert (EP 0748984).

Robert teaches operating an oxyhydrogen gas generator (1) within a waste treatment system (Figs. 1-2) to produce oxyhydrogen-rich gas (col. 4, lines 1-2); contacting at least a portion of the waste stream with at least a portion of the oxyhydrogen-rich gas to conduct a unit process for treating the waste stream (30); and conveying at least a portion of the oxyhydrogen-rich gas for a second use in the waste treatment system including a combustion unit (32; col. 4, lines 5-7), wherein the oxyhydrogen rich gas may be produced from an external water source (col. 5, lines 1-2) and wherein the oxyhydrogen rich gas may be the sole source of energy (col. 3, lines 44-48).

3. Claims 1-2, 24-28, 31, and 45-47 are again rejected under 35 U.S.C. 102(b) as being anticipated by Wesley (US Pat No 3,829,368).

Wesley teaches operating an oxyhydrogen gas generator (20) within a waste treatment system (col. 5, lines 66-73) to produce oxyhydrogen-rich gas (Figure); contacting at least a portion of the waste stream containing a water component with at

least a portion of the oxyhydrogen-rich gas to conduct a unit process for treating the waste stream (col. 6, lines 37-54; col. 7, lines 42-47) and conveying at least a portion of the oxyhydrogen-rich gas for a second use in the waste treatment system including a fuel cell comprising a combustor (60), wherein the heat given may be recovered and used in the system (col. 7, lines 48-65), the exhaust contains water which is condensed (col. 4, lines 28-32), and wherein the oxyhydrogen rich gas may be the sole source of energy in a form including power generation (col. 2, lines 66-72; col. 3, lines 1-5), separating the oxyhydrogen gas (40, 50, 52).

4. Claims 1-2, 29, 30, 34-35, and 48 are again rejected under 35 U.S.C. 102(b) as being anticipated by Mehl.

Mehl teaches operating an oxyhydrogen gas generator (10, 16) within a waste treatment system (col. 2, lines 68-72; Fig. 1) to produce oxyhydrogen-rich gas (col. 4, lines 70-73); contacting at least a portion of the waste stream containing a water component with at least a portion of the oxyhydrogen-rich gas to conduct a unit process for treating the waste stream including adhering bubbles to solids (col. 5, lines 61-72) and conveying at least a portion of the oxyhydrogen-rich gas for a second use in the waste treatment system in the form of an ozonization (44), wherein the waste is inherently "stabilized" due to the production of excess ozone.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1724

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 33 are again rejected under 35 U.S.C. 103(a) as being unpatentable over either Wesley or Mehl.

Wesley and Mehl are described above. Neither reference discloses segregating a portion of a portion of the water to generate oxyhydrogen or using a pulsed electrical signal.

Per claim 3, it is submitted that it is well known in the art to provide only a portion of water to an oxyhydrogen generator in order to, for instance, control the concentration of desired chemicals in the water (see, for example, US Pat No 2,882,210 to Jenks).

Accordingly, it would have been readily obvious for the skilled artisan to modify either method of Wesley or Mehl such that the method includes providing only a portion of water to an oxyhydrogen generator in order to, for instance, control the concentration of desired chemicals in the water, as known in the art.

Per claim 33, it submitted that it is well known in the art to provide a pulsed electrical signal to electrodes in order to, for example, selectively degrade contaminants in wastewater (see, for example, US Pat No 4,140,609 to Zucker or US Pat No 5,549,812 to Witt a.k.a. Witte).

Accordingly, it would have been readily obvious for the skilled artisan to modify either method of Wesley or Mehl such that the method includes providing a pulsed electrical signal to electrodes in order to, for example, selectively degrade contaminants in wastewater, as known in the art.

7. Claims 29-30 and 48 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Wesley in view of Mehl (US Pat No 3,523,891).

Wesley is described above. Neither reference discloses converting a portion of the oxygen to ozone for disinfection or using the oxygen to fulfill oxygen demand.

Mehl discloses using electrolysis (10) to produce oxygen and hydrogen bubbles, the oxygen bubbles inherently leaving the water after they reach the water surface and being entrained in the gas drawn out by vacuum (30), and converting a portion of the oxygen to ozone (44) for disinfecting sewage and using the oxygen to fulfill oxygen demand (col. 2, lines 27-31).

It is submitted that it would have been readily obvious for the skilled artisan to modify the method of either Robert or Wesley by converting a portion of the oxygen to ozone for disinfecting sewage and using the oxygen to fulfill oxygen demand, as shown by Mehl.

#### ***Response to Arguments***

8. Applicant's arguments filed November 16, 2005 have been fully considered but they are not persuasive.

Applicant asserts that Robert (EP 0748984) Robert makes no mention of oxyhydrogen gas and applicant further asserts that oxyhydrogen is a single gas containing oxygen and hydrogen. However, it is noted that applicant's definition of oxyhydrogen in paragraph [0040] of the instant specification is clearly within the scope of the oxyhydrogen gas disclosed by Roberts. Applicant further argues that Robert does not provide a second use for the gas. It is respectfully submitted that utilizing the

oxyhydrogen gas within the fuel burner is the second use. The first use is, among others, conducting a unit process in the method to treat the waste stream. Applicant asserts that Roberts does not disclose an external water source. It is respectfully submitted that the acids listed in lines 1-2 contain water. Accordingly, applicant's arguments with respect to Roberts have been considered but do not patentably distinguish applicant's invention over the prior art.

Applicant asserts that Wesley (US 3,829,368) makes no mention of oxyhydrogen gas. However, it is noted that applicant's definition of oxyhydrogen gas in paragraph [0040] of the instant specification is clearly within the scope of the gas disclosed by Wesley. Applicant argues that Wesley makes no reference to using the gases created to treat a waste stream as a single gas. However, it is noted that applicant is arguing a limitation not claimed. Applicant does not claim that the gas may not undergo a separation step and recombination step prior to a second use. Moreover, it is noted that at least one form of the oxyhydrogen gas disclosed by applicant is inherently multiple gases ( $H_2$  and  $O_2$ ) combined as a single gas. Applicant also asserts that the gas does not treat a waste stream. It is submitted that the oxyhydrogen gas in the fuel cell inherently contacts the water in the fuel cell and therefor inherently performs a unit process for treating the water. Accordingly, applicant's arguments with respect to Wesley have been considered but do not patentably distinguish applicant's invention over the prior art.

Applicant asserts that Mehl (US 3,523,891) makes no mention of oxyhydrogen gas. However, it is noted that applicant's definition of oxyhydrogen gas in paragraph [0040]

Art Unit: 1724

of the instant specification is clearly within the scope of the gas disclosed by Wesley.

Applicant asserts that no mention is made of further use of oxygen and hydrogen.

However, it is noted that a portion the oxyhydrogen gas produced is routed to the ozone generator, thereby constituting a second use.

Applicant argues that Jenks (US 2,822,210) utilizes chemicals not used in the instant invention. Neither applicant's invention nor applicant's claims preclude the use of additional chemicals. Accordingly, applicant's arguments with respect to Jenks have been considered but do not patentably distinguish applicant's invention over the prior art.

Applicant argues that Zucker (US 4,140,609) utilizes a type of electrolysis not of the instant invention. It is noted that applicant is arguing a limitation not claimed and therefore, the argument, while considered, fails to patentably distinguish the instant invention over the prior art. Applicant argues Witt a.k.a. Witte (US 5,549,812) does not teach selective degradation of contaminants. The examiner disagrees. Witt clearly discloses that certain contaminants are degraded without affecting, for example, the floc (col. 3, lines 17-21). Applicant argues that neither Zucker nor Witt discloses oxyhydrogen or a second use for gases. It is submitted that Wesley and Mehl disclose oxyhydrogen gas and a second use for gases.

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the primary references do indeed disclose creation of oxyhydrogen gas and first and second uses and the combination of the prior art cited yields the present invention as claimed.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Fred Prince  
Primary Examiner  
Art Unit 1724

fgp  
12/15/05